U.C. COOPERATIVE EXTENSION

SAMPLE COST TO ESTABLISH AND PRODUCE

KLEINGRASS HAY

HAY PRODUCTION

IMPERIAL COUNTY – 2003

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For an explanation of calculations used for the study refer to the attached General Assumptions or call the author, Keith S. Mayberry , at the Imperial County Cooperative Extension office, (619)352-9474 or e-mail at ksmayberry@ucdavis.edu.

FOREWORD

We wish to thank growers, pest control advisors, chemical applicators and dealers, custom farm operators, fertilizer dealers, seed companies, contract harvesters, equipment companies, and the Imperial County Agricultural Commissioners office for providing us with the data necessary to compile this circular. Without them we could not have achieved the accuracy needed for evaluating the cost of production for the field crop industry in Imperial County.

The information presented herein allows one to get a "ballpark" idea of field crop production costs and practices in the Imperial County. They do not reflect the exact values or practices of any one grower, but are rather an average of countywide prevailing costs and practices. Exact costs incurred by individual growers depend upon many variables such as weather, land rent, seed, choice of agrichemicals, location, time of planting, etc. No exact comparison with individual grower practice is possible or intended. The budgets do reflect, however, the prevailing industry trends within the region.

Overhead usually includes secretarial and office expenses, general farm supplies, communications, utilities, farm shop, transportation, moving farm equipment, accountants, insurance, safety training, permits, etc. In most of the crop guidelines contained in this circular we used 13 % of the total of land preparation, growing costs and land rent to estimate overhead.

Since all of the inputs used to figure production costs are impossible to document in a single page, we have included extra expense in man-hours or overhead to account for such items as pipe setting, motor grader, water truck, shovel work, bird and rodent control, etc. Whenever possible we have given the costs of these operations per hour listed on the cultural operations page.

Not included in these production costs are expenses resulting from management fees, loans, providing supervision, or return on investments. The crop budgets also do not contain expenses encumbered for road and ditch maintenance, and perimeter weed control. If all the above items were taken into account, the budget may need to be increased by 7-15%.

Where applicable we have used terminology that is commonly used in the agricultural industry. These terms are compiled in a glossary at the end of the circular. We feel that an understanding of these terms will be useful to entry-level growers, bankers, students and visitors.

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2002-2003 Field/Vegetable Prevailing Rate for Field Operations
IMPERIAL COUNTY

HEAVY TRACTOR WORK & LAND PREPARATION

OPERATION	$/ACRE
Plow	30.50
Subsoil, 2nd gear	39.00
Landplane	12.75
Triplane	11.25
Chisel 15”	25.00
Wil-Rich chisel	16.00
Big Ox	24.00
Slip plow	41.00
Pull/disc borders	6.75
Make cross checks (taps)	6.25
Break border	6.00
Disc, stubble	21.00
Disc, regular	12.50
Corrugate	11.00
Disc, regular with ring roller	13.50
List 30” beds 12-row	15.00
List 40” beds 8-row	15.00
Float	10.00
Disc, borders	7.00
Dump (scraper) borders	14.50

LIGHT TRACTOR WORK

Power mulch dry	25.00
Power mulch with herbicide	28.00
Shape 30” 6 row	10.75
Shape 40” 4 row	10.75
Plant 30” beds nonprecision	20.00
Plant 40” beds nonprecision	18.00
Precision plant 30” beds	22.00
Precision plant 40” beds	20.00
Mulch plant wheat	19.50
Plant alfalfa (corrugated)	17.50
Plant bermudagrass (flat)	13.75
Plant sudangrass	14.75
Cultivate 30” beds 4-row	16.00
Cultivate 40” beds 4-row	14.00
Spike 30” beds 4-row	13.25
Spike 40” beds 4-row	11.25
Spike and furrow out 30” 4-row	14.00
Spike and furrow out 40” 4-row	12.00
Furrow out 30” beds 4-row	13.25
Furrow out 40” beds 4-row	11.25
Lilliston 30” beds 6-row	13.00
Lilliston 40” beds 4-row	13.00
Lilliston 30” beds with/herbicides 6-row	15.00
Lilliston 40” beds with/herbicides 4 -row	15.00
Inject fertilizer & furrow out 30” beds 4-row	15.00
Inject fertilizer & furrow out 40” beds 4-row	13.00
Fertilize dry & furrow out 30” beds	17.00
Fertilize dry & furrow out 40” beds	15.00
Flat inject fertilizer NH_3	15.00
Broadcast dry fertilizer	7.00
Ground spray 40” 8-row	12.00
Ground spray 30” 8-row	14.00
Chop cotton stalks	13.75

HARVEST COSTS Field Crops

	BY UNIT
Combine alfalfa seed	41.75/acre
Windrow alfalfa seed	17.50/acre
Rake bermudagrass	5.00/acre
Swath bermudagrass	13.50/acre
Swath sudangrass	11.25/acre
Rake sudangrass	5.25/acre
Swath alfalfa	8.00/acre
Rake alfalfa	4.50/acre
Bale (all types of hay- small bale)	0.65/bale
Haul & stack hay – small bale	0.25/bale
Bale (large bale 4X4)	10.00/bale
Bale (large bale Jr. 3X4)	9.00/bale
Stack & load large bale	6.00/bale
Dig sugar beets	2.60/clean ton
Haul sugar beets	2.45/clean ton
Combine wheat	15 per acre + 0.55 /cwt over 1 ton
Haul wheat	5.50/ton
Combine bermudagrass seed 1st time	40.00/acre
Combine bermudagrass seed 2st time	25.00/acre
Haul bermudagrass seed (local)	175/load
Haul bermudagrass seed (Yuma)	300/load

MISCELLANEOUS OPERATIONS BY THE HOUR

Motor grader	48.00
Backhoe	45.00
Water truck	40.00
Wheel tractor	35.00
Scraper	36.00
Versatile	56.00
D-6	56.00
D-8	70.00
Buck ends of field	28.00
Pipe setting (2 men)	37.00
Laser	88.00
Work ends (disc out rotobucks)	35.00

IMPERIAL COUNTY KLEINGRASS PASTURE CULTURE 2002-2003

ACREAGE: Klinegrass is a new forage crop in the Valley. Acreage in the past several years has increased to 10, 262 acres in 2001 according to the Imperial County Agricultural Report.

STAND ESTABLISHMENT: A uniform seedbed is prerequisite to obtaining a good stand. High spots in the field may cause uneven irrigation, resulting in poor stands. Lasers leveling the field before planting will ensure more uniform irrigation. The cost of laser leveling varies from field to field based upon an hourly rate for equipment. The hourly rate normally translates to $45-50 per acre. If laser leveling is not used, then the triplaning and dumping borders is often used to make a level seed bed.

PLANTING RATES, DATES & VARIETIES: Kleingrass can be planted any time during the summer months, but is commonly planted in late September and October to escape some of the weed pressure. The common variety is Selection 75 planted at about 6-7lbs per acre.

FERTILIZERS: Kleingrass commonly requires 400 to 500 pounds of nitrogen per acre per year to obtain high tonnage. Urea and anhydrous ammonia are commonly applied. Some growers have added phosphorus to their fertilizer programs if soil test show levels of soluble phosphorus are lower than 10 parts per million.

IRRIGATION: Kleingrass usually thrives under moist soil conditions. Quick applications of irrigation water are sufficient unless leaching of salts is intended. Five to six irrigations are generally needed to establish a stand. Two to three irrigations are needed to produce a cutting.

PEST CONTROL: Kleingrass is relatively pest free. Flea beetles occasionally cause a problem during stand establishment.

WEED CONTROL Weeds do not generally cause serious problems in kleingrass if it is planted at the appropriate time of the year and the crop emerges and grows vigorously. Very few herbicides are registered for this crop. Consult your pest control advisor or Weed Science Farm Advisor for current recommendations.

HARVESTING: Harvesting procedures are similar to bermudagrass with most of the production occurring during the summer months. With the onset of cool weather, the grass will become dormant.

IMPERIAL COUNTY KLEINGRASS HAY PRODUCTION COSTS 2002-2003

80 acre field

Mechanical operations at prevailing rates. Hand labor at $9.25 /hr.($6.75 plus SS, unemployment, workman's compensation and fringe benefits)

Yield--9 tons hay

80 acre field

OPERATION	Prevailing Rate	MATERIALS Type/Amount	Cost	HAND LABOR Hours	Dollars	COST Per Acre
LAND PREPARATION						
Stubble disc	21.00					21.00
Big ox	24.00					24.00
Disc, regular 2x	12.50					25.00
Triplane 2x	11.25					22.50
Dump borders	14.50					14.50
Shape borders	6.00					6.00
TOTAL LAND PREPARATION COSTS						**107.00**
COST OF ESTABLISHMENT						
Plant (flat)	13.75	Seed 7 lb	45.50			59.25
Irrigate 5x		Water 2.5 ac-ft	40.00	1.5	13.88	53.88
Weed Control 1x ground	12.50	Herbicides	3.00			15.50
COST OF ESTABLISHMENT						**128.63**
TOTAL COST OF STAND ESTABLISHMENT						**235.63**
COSTS OF HAY PRODUCTION (5-year life)						
Irrigate 16x		Water 6.25 ac-ft	100.00	5	48.56	148.56
Fertilizer, dry 3x	7.00	350 lb N (urea)	77.00			98.00
Fertilize (water-run)		200 lb N (anhydrous)	36.00			36.00
TOTAL ANNUAL COSTS						**282.56**
Land rent (net acres)						125.00
Amortization	20 % of total cost of stand establishment					47.13
Cost overhead	13 % of annual costs, land rent and amortization					59.11
TOTAL PREHARVEST COSTS						**513.80**
HARVEST COSTS						
Swather 5x	13.50					40.50
Rake 12x	5.00					40.00
Bale 9 tons	0.65 /bale	18 bales/ton				105.30
Haul & Stack 9 tons	0.25 /bale	18 bales/ton				40.50
TOTAL HARVEST COST						**226.30**
TOTAL ALL COSTS						**740.10**

PROJECTED NET GAIN (PER ACRE)

Yield (tons/acre)	Price/ton ($) 70	80	90	100	110	Breakeven ($/ton)
8	-164	-84	-4	76	156	90.49
9	-110	-20	70	160	250	82.23
10	-56	44	144	244	344	75.63
11	-2	108	218	328	438	70.23
12	51	171	291	411	531	65.72